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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Substitute for form 1449/PTO

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Col	mplete if Known	
Application Number	10/649,712	
Filing Date	August 26, 2003	
First Named Inventor	Ren, Fan	
Art Unit	2812	
Examiner Name		
Attorney Docket Number	5853.274	

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$\eta N \nu$		US- 6,107,649	08/22/2000	Zhao	
		US- <sub>2001/0015437</sub>	08/23/2001	Ishii et al.	
		US- 6,140,169	10/31/2000	Kawai et al.	
$\mathbb{V}_{-}$		US- <sub>5,929,467</sub>	7/27/1999	Kawai et al.	
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Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	
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Examiner Date Considered Signature

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Application Numb r 10/649,712

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

First Named Inventor

Ren, Fan

Art Unit

2812

Examiner Name

Sheet 1. of 1 Attorney Docket Number 5853-274

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Τ²
pmb		Hu et al., "Enhancement mode AlGaN/GaN HFET with selectively grown pn junction gate," Electronics Letters, 36: 753-754, 2000.	
		Chen et al., "GaN Metal-insulator-semiconductor Field Effect Transistor Based on GaN/AlGaN Double Hetrojunctions," Nanjing University, P.R. China.	
		Yoshida, S., Abstrat, "AlGaN/GaN Power FET," Furukawa Review, 21: 7-11, 2002.	
1		Valizadeh, P., Abstrat, "AlxGa 1-XN/GaN High Electron Mobility Transistor (HEMT).	
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Examiner Signature		Date 9/25/04	

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BWB		Kim et al., "Inversion behavior in Sc2O3/GaN gated diodes," Appl. Phys. Lett., 81: 373-375, July 2002.	
		Simin et al., "7.5kW/mm2 current switch using AlGaN/GaN metal-oxide-semiconductor heterostructure filed effect transistor on SIC substrates," Electronics Letters, 36: November 2000.	
		Mistele et al., "First AlGaN/GaN MOSFET with photoanodic gate dielectric," Materials Science and Engineering, B93, 107-111, 2002.	
		Khan et al., "Enhancement and depletion mode GaN/AlGaN hetrostructure field effect transistors," Appl. Phys. Lett., 68: 514-516, January 1996.	
		Simin, et al., "SiO2/AIGAN/InGaN/GaN MOSDHFETs," IEEE Electron Device Letters, 23: 458-460, August 2002.	
		Kim et al., "Characteristics of MgO/GaN gate-controlled metal-oxide-semiconductor diodes," Applied Physics Letter, 80: 4555-4557, June 2002.	
		Koudymov et al., "Maximum current in nitride-based hetrostructure field-effect transistors," Applied Physics Letters, 80: 3216-3218, April 2002.	
		Hu et al., "Si3N4/AlGaN/GaN-metal-insulator-semiconductor hetrostructure field-effect transistors," Applied Physics Letters, 79: 2832-2834, October 2001.	
/		Teles et al., "Spinodal decomposition in BxGa1-xN and BxAI1-xN alloys," Applied Physics Letters, 80: 1177-1179, February 2002.	
7		Chou et al., AlGaN/GaN Metal Oxide Semiconductor Hetrostructure Field-Effect Transistor Based on a Liquid Phase Deposited Oxide," Jpn. J. Appl. Phys. 41: L748-I750, July 2002.	

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Examiner Signature	Date Considered	9/	25/04

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Sheet	1					
			U. S. PATENT	DOCUMEN'	rs	Pages, Columns, Lines, Where
Examiner	Cite No.	Document Number	Publication Date MM-DD-YYYY		ame of Patentee or ant of Cited Document	Relevant Passages of Relevant Figures Appear
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Examiner Initials*	Cite No.	Foreign Patent Document	Publication Date MM-DD-YYYY	MENTS Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	,
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